

## EPA Region 5-Illinois EPA Monthly NSR Permits Call

DATE: April 25, 2013  
 SUBJECT: Air Permits Meeting of April 9-10, 2013  
 FROM: David Ogulei, Environmental Engineer  
 ARD/APB/Air Permits Section  
 TO: Files  
 THRU: Genevieve Damico, Section Chief

Next call: 2:00 PM, May 14, 2013  
 Call-in number: (b)(6)

The following are notes from the subject meeting. Representing EPA were David Ogulei, Danny Marcus and Genevieve Damico. Representing Illinois EPA were Ed Bakowski, Chris Romaine, Jason Schnepf, Manish Patel, Minesh Patel, Bob Smet, Kevin Smith, Kevin Hecht, Shashi Shah, and Kunj Patel.

The purpose of the meeting was to discuss active and anticipated projects, and to identify and discuss any current or anticipated issues of concern. EPA comments made during such meetings or conference calls are tentative and subject to modification upon further review of factual data.

### Topics Discussed

1. Will the 2012 annual PM<sub>2.5</sub> standard and attainment/nonattainment designations "automatically" replace/supersede the less stringent 1997 standard in 2015?

**Answer:** The 2012 standard supersedes the 1997 standard (happened on 3/18/13). However, the current non-attainment designations with respect to the existing 1997 standard will remain until EPA formally redesignates the affected areas as attainment for the 1997 standard. The 2012 standard is currently the effective standard; however, areas are not considered non-attainment for this standard until designations under this standard are finalized.

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If an area is not redesignated as attainment under the 1997 standard and is designated non-attainment for the 2012 standard, they will continue to be non-attainment for both standards until the agency takes action to repeal the older standard which will leave them to be non-attainment for just the 2012 standard. The standards will most likely coexist for a while. For example, the 1997 ozone standard is still in effect even though it is superseded by the 2008 standard.

2. **Can Illinois EPA permit Will County as attainment for PM<sub>2.5</sub> with a final Clean Data Finding or is the official re-designation required?**

**Answer:** No, Illinois EPA must wait for EPA to officially re-designate Will County as attainment before permitting projects in this area under attainment area procedures.

3. **What are the implications for PSD projects of EPA's new draft guidance for PM<sub>2.5</sub> modeling and monitoring?**<sup>1</sup>

**Answer:** See the attached review summary.

4. **How does EPA handle startup, shutdown and malfunction (SSM) exemptions in new and revised New Source Performance Standards (NSPSs) and National Emissions Standards for Hazardous Air Pollutants (NESHAPs)? Is it consistent with the recently proposed multi-state "SIP Call" on SSM provisions?**

**Answer:** Exemptions from emission limits during SSM events exist in a number of state and federal rules, including certain NSPSs and NESHAPs. However, recent court decisions have held that under the Clean Air Act, such exemptions are not allowed in State Implementation Plans (SIPs) and NESHAPs.<sup>2</sup> New NESHAPs and NSPSs reflect EPA's new direction in light of recent court challenges/decisions.

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<sup>1</sup> See [http://www.epa.gov/ttn/scram/guidance/guide/Draft Guidance for PM25 Permit Modeling.pdf](http://www.epa.gov/ttn/scram/guidance/guide/Draft%20Guidance%20for%20PM25%20Permit%20Modeling.pdf)

<sup>2</sup> EPA's current guidance on SSM exemptions in NESHAPs is found in the July 22, 2009 memorandum by Adam M. Kushner, Director Office of Civil Enforcement, EPA Office of Enforcement and Compliance Assurance. Also, see <http://www.epa.gov/oecaerth/civil/caa/ssm-memo080409.pdf>. This memo discusses the impacts of the 2008 D.C. Court of Appeals decision in *Sierra Club v. EPA*,

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On 2/22/13, in response to a petition for rulemaking filed by the Sierra Club, EPA proposed to find that SIPs from 36 states, including Illinois, have SSM provisions that are inconsistent with the Clean Air Act. As a result, EPA proposed a "SIP Call" for each of these states, which would give the affected states 18 months to correct and submit acceptable state plan provisions. Comments on the proposal must be received on or before May 13, 2013. The settlement agreement with Sierra Club requires EPA to take final action no later than August 27, 2013. Additional information regarding the status of the SSM rulemaking can be found at:

<http://www.epa.gov/air/urbanair/sipstatus/emissions.html>

EPA's current SSM policy distinguishes between excess emissions during "unforeseeable events like malfunctions" and "foreseeable events like startup and shutdown."

**Regarding startup and shutdown emissions**, EPA has stated the following:<sup>3</sup>

"The EPA believes that sources should be designed, maintained, and operated in order to comply with applicable emission limitations during normal operations. By definition, planned events such as startup and shutdown are phases of normal source operation. Because these events are modes of normal operation, the EPA believes that sources should be expected to comply with applicable emission limitations during such events.

Unlike malfunctions, startup and shutdown are not unexpected events and are not events that are beyond the control of the owner or operator of the source. Also unlike malfunctions, it is possible for the source to anticipate the amount of emissions during startup and shutdown, to take appropriate steps to limit those emissions as needed, and to remain in continuous compliance. In the event that a source in fact cannot comply with the otherwise applicable

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which vacated the SSM exemptions found in the General Provisions of 40 C.F.R. Part 63. The D.C. Court of Appeals issued its mandate vacating these provisions on October 16, 2009. The mandate is available at: <http://www.epa.gov/oecaerth/civil/caa/ssmmandate121908.pdf>

<sup>3</sup> See 78 Fed. Reg. 12480-12482 (February 22, 2013)

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emission limitations during normal modes of source operation due to technological limitations, then it may be appropriate for the state to provide special emission limitations or control measures that apply to the source during startup and shutdown..

... The EPA believes that providing affirmative defenses for violations that occur as a result of planned events within the control of the owner or operator of the source is inconsistent with the requirements of CAA sections 113 and 304, which provide for potential civil penalties for violations of SIP requirements. The distinction that makes affirmative defenses appropriate for malfunctions is that by definition those events are unforeseen and could not have been avoided by the owner or operator of the source, and the owner or operator of the source will have taken steps to prevent the violation and to minimize the effects of the violation after it occurs. In such circumstances, the EPA interprets the CAA to allow narrowly drawn affirmative defense provisions that may shield owners or operators of sources from civil penalties, when their conduct justifies this relief."

**Regarding emissions during malfunctions,** EPA has stated the following:<sup>4</sup>

"The criteria that the EPA recommends for approvable affirmative defense provisions for excess emissions for malfunctions consistent with CAA requirements remain essentially the same as stated in the 1999 SSM Guidance... Most importantly, a valid affirmative defense for excess emissions due to a malfunction can only be effective with respect to monetary penalties, not with respect to potential injunctive relief. Second, the affirmative defense should be limited only to malfunctions that are sudden, unavoidable, and unpredictable. Third, a valid affirmative defense provision must provide that the defendant has the burden of proof to demonstrate all of the elements of the defense to qualify. This demonstration has to occur in a judicial or administrative proceeding where

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<sup>4</sup> 78 Fed. Reg. 12478-12480 (February 22, 2013)

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the merits of the affirmative defense are  
 independently and objectively evaluated."

**5. What challenges has EPA encountered in the processing of  
 the Title V permit for Veolia?**

EPA identified the following challenges:

- o Location of the source in an area with EJ concerns;
- o Significant public interest;
- o Number and nature of comments and support documents  
 received;
- o Long and complicated enforcement history of the source;

**REVIEW OF PENDING PROJECTS OF INTEREST**

Illinois EPA provided updates to the list of active NSR projects  
 of interest and their status. See below for updated project  
 status.

**KEVIN SMITH**

**Afton Chemical (formerly Ethyl Petroleum) (Sauget, St. Clair  
 County); ESA-no; PSD:** This company proposes to revise its  
 permit for an oil additive process to update BACT for the  
 condenser. The BACT re-evaluation only affects SO<sub>2</sub> emissions.  
 The condenser removes H<sub>2</sub>S and CS<sub>2</sub> gases at -35-40°F before  
 passing to a flare. The permit requires proper operation of the  
 condenser to assure vapor liquid separation. Compliance would be  
 determined by a mass balance with the presumption that the  
 emissions are sent to the flare. In response to Illinois EPA's  
 review, the company submitted additional information including  
 changes to the process and a revised BACT analysis. The company  
 proposed a new control process because the original proposed  
 scrubber will not work with their process. Illinois EPA has  
 prepared a draft permit that does not require an H<sub>2</sub>S scrubber  
 after the condenser, but will have a thermal oxidizer and an SO<sub>2</sub>  
 scrubber. Company has reviewed the draft permit and submitted  
 comments. Illinois EPA will verify that this project has  
 undergone the necessary ESA review before the final permit is  
 issued. Currently reviewing the additional information  
 submitted by the company.

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**Keystone Steel and Wire (Peoria, Peoria County); ESA-no; PSD:**

This company proposes to relax the SO<sub>2</sub> BACT emission limit in the PSD permit. The PSD permit was issued in the early 1990s with an SO<sub>2</sub> emission limit that the source considers too low. Company submitted additional information requested by Illinois EPA. Illinois EPA prepared a draft permit and shared it with the company. Company submitted comments on the draft permit language on August 15, 2012. Awaiting additional modeling information from the company.

~~U.S. Steel (Granite City, Madison County); ESA-no; Integrated CAAPP/Minor Permit: U.S. Steel applied for three permits to install a new baghouse control system, pursuant to an Agreement between U.S. Steel and Illinois EPA, for an emissions reduction project for the basic oxygen process furnaces (BOPFs). The three permits include a construction permit for the new baghouse capture and control system, modifications to the facility's existing CAAPP permit to incorporate the new construction permit conditions through integrated permitting processing, and a request to revise an existing PSD permit to reflect the new control strategy for the BOPFs at U.S. Steel's Granite City works. The revised PSD permit was issued on 12/17/2012.~~

~~A public Hearing was held on July 18th and the public comment period closed at midnight August 17, 2012. Illinois EPA is still finalizing the minor construction permit and modifications to the facility's CAAPP permit.~~

**ADM - Glycol Plant (Decatur, Macon County); ESA-yes(?):** ADM has submitted a PSD application for a modification to their Glycol plant. Application involves revisions to BACT limits for the cooling tower. Source has informed Illinois EPA that it intends to significantly revise its application. Awaiting additional information from the source.

**BOB SMET**

**Wheatland Tube (Chicago, Cook County); ESA-no; NNSR:** This company proposes to revise its LAER permit for mills 3 and 4 by combining the allowable emissions for each into one total amount of emissions from both. The company wants to revise the LAER

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limitation for Mill 4, expressed in lb VOM/gal minus water and exempt compounds to conform to that for Mill 3, which was in lb VOM/gal only. Illinois EPA is at an impasse on resolving this request. No change.

**Garden Prairie Energy c/o Power Venture Group (Boone County);**

**ESA-no:** This company is proposing a 101 MW natural gas-fired internal combustion engine peaker power plant. The proposed plant would also support wind power projects in northern Illinois by serving as an alternative source of power during low-wind periods. The plant will have 12 engines, each with a SCR and a catalytic oxidizer. Illinois EPA is reviewing the additional information and revised modeling submitted by the company and working on a draft permit. The draft permit that went out for public comment avoided PSD, including for GHG. Public comment period on the draft permit closed April 13, 2012. Only EPA submitted comments. EPA's concerns were forwarded to the company soon after receipt. Source has requested a CO<sub>2</sub> synthetic minor limit so as to keep GHG emissions just below the 100,000 tpy major source threshold. (Note: Original application came in more than 3 years ago.)

**Hoosier Energy (Davis Junction, Ogle County); ESA-yes; PSD:** PSD

application for a landfill gas-to-energy facility at the existing Veolia Orchard Hills Landfill. The facility will have seven engine-generators and a total capacity of 19.1 MW. The project is subject to PSD for NO<sub>x</sub>, CO, PM<sub>10</sub>, PM<sub>2.5</sub>, and VOM/NMOC. Although the project will emit significant amounts of GHGs (due to a projected increase in the amount of landfill gas (LFG) generated by the landfill), the project will not be subject to PSD for GHGs. This is because EPA has deferred, for three years, the applicability of PSD requirements to biogenic CO<sub>2</sub> emissions, including CO<sub>2</sub> emissions from the combustion of LFG. Also, the application indicates that SO<sub>2</sub> emissions will be limited to 39.9 tpy, which is below the SO<sub>2</sub> significance threshold of 40 tpy. The demonstration of BACT in the application shows that engine-generators are BACT technology for the proposed facility and that the emission rates achieved by the engines for pollutants subject to PSD should be considered BACT. The air quality analysis predicted exceedances of the 24-hour PM<sub>2.5</sub> NAAQS and the 1-hour NO<sub>2</sub> NAAQS. However, Hoosier Energy demonstrated that the project "would not have a significant impact on all exceedances and would therefore not be a cause or contribute to these modeled exceedances." Comment

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period on the draft permit ended on August 11, 2012. Comments were only received from EPA and the company itself. The company has requested a relaxation of the VOM emission limits. Illinois EPA is in the process of responding to comments, and plans to re-public notice the draft permit soon.

**Ameren Meredosia - Futuregen Project (Meredosia, Morgan County);**

**ESA- no:** As a demonstration project at their Meredosia Power Plant, Ameren proposes to ~~both~~ install a ~~200~~ 170 MW oxy-combustion coal-fueled boiler and utilize CCS as a demonstration project with DOE funding.<sup>5</sup> The new ~~200~~ 170 MW oxy-combustion boiler will replace an existing oil-fired boiler. The company will also be shutting down existing boilers and will be completely netting out of PSD review. Ameren has now stated that the project has been delayed and will submit a revised application sometime in early 2013. Illinois EPA plans to hold a public hearing on the draft permit, probably in late spring or early summer 2013. ~~No change in status. Potential challenges include establishment of acceptable and reliable emissions monitoring methods for the source.~~

**Annawan Energy c/o Power Venture Group (Henry County); ESA-no:**

This company is proposing a 101 MW natural gas-fired internal combustion engine peaker power plant that is similar to the proposed Garden Prairie Energy project in Boone County. The proposed plant would support wind power projects in northwest Illinois by serving as an alternative source of power during low-wind periods. The plant will have 12 engines, each with a SCR and a catalytic oxidizer. Not a PSD major project due to the proposed control equipment. Follow up e-mails were sent, and recent response from the consultant indicates that a revised application will be submitted soon. Permit will be similar to Garden Prairie's permit. No change in status. Little feedback regarding the future status of the project has been provided by the applicant.

**Christian County Generation (a.k.a. Taylorville Energy Center,**

**Tenaska):** The source is requesting a PSD permit to construct a plant to produce substitute natural gas (SNG) and generate electricity, including a gasification block with two coal gasifiers and a power block with two turbines. The \$3.5 billion Taylorville Energy Center will use Illinois basin coal to power

<sup>5</sup> The applicant is downsizing from a 200 MW to a 170 MW boiler.



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the plant, capture the carbon dioxide (CO<sub>2</sub>) and either sequester it underground or sell it for use in enhanced oil recovery (EOR). Illinois EPA originally issued a PSD permit for this source on 4/30/12 but subsequently withdrew the permit on July 6, 2012 after NRDC and the Sierra Club appealed the permit to the EAB. The 4/30/12 permit included limits on CO<sub>2</sub> emissions from individual turbines when operating in a combined cycle mode.

NRDC and Sierra Club alleged the following in their June 19, 2012 amended petition filed with the EAB:

1. Illinois EPA erred in its BACT determination for CO<sub>2</sub> emissions from the acid gas removal vent
2. Illinois EPA's failure to consider low sulfur coal in its BACT analysis violated the Supremacy Clause and Dormant Commerce Clause of the U.S. Constitution.
3. Illinois EPA erred in its BACT determination for "fugitive" emissions by applying synthetic organic chemical manufacturing industry emissions factors.
4. The applicant failed to conduct single-source air dispersion modeling when demonstrating compliance with the 8-hour ozone NAAQS.
5. In light of a post-Permit announcement by the applicant's parent company that it would construct the facility in two phases - with the natural combined-cycle "power block" built first, followed by construction of the coal gasification unit (and associated carbon capture equipment) at an indefinite time in the future, when market conditions improve - the Permit should be remanded to narrow the timeframe in which construction of all phases of the project is commenced.

Illinois EPA is currently reconsidering the permitting decision including, but not limited to, elements of the BACT analysis. Illinois EPA plans to consult with EPA and the Permittee during the reconsideration process. Any reissuance of the permit may potentially be subject to additional public comment and hearing. On hold indefinitely.

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**Universal Cement (Chicago, Cook County); ESA-no; PSD:** Universal Cement has requested an extension to their PSD permit for a cement manufacturing plant on the south side of Chicago. No changes to the permit (e.g., BACT) are expected. Will go out for public notice soon.

#### **JASON SCHNEPP**

**U.S. Steel (Granite City, Madison County); ESA=yes; PSD:** This is a clean-up of the "Production Increase" PSD permit originally issued January 1996. The primary reason for the revision is to correct the SO<sub>2</sub> emission rate for combustion of blast furnace gas in combustion equipment at the source. The PSD permit limits SO<sub>2</sub> emissions at approximately 6 lb/mmscf but the actual rate has been closer to 16 lb/mmscf. A preliminary draft was sent to the company for review on March 19, 2010. Illinois EPA sent letter requesting comments on the draft. Comments received 8/12/2011. Illinois EPA is reviewing and responding to comments. On hold until other related permit actions at the source are completed.

**Gateway Energy & Coke Company (Granite City, Madison County); ESA-no, PSD:** Gateway requested a revised permit to authorize a maintenance period for the activated carbon injection system on the main stack. This system is designed to reduce mercury emissions from the main stack. The maintenance period would prevent extended outages of the control system. The authorization would be available for approximately one year at which time Gateway will install a redundant control system. Gateway also requested changes to the permitted lead emissions for the main stack and individual waste heat stacks. Based on emission testing for lead at the plant, the requested changes would result in a lower permitted emission rate for the main stack and a higher permitted emission rate for the individual waste heat stacks. The overall change in lead emissions at the plant will be an increase from 0.2 tons per year to 0.28 tons per year. Because the proposed project emissions for lead are still less than 0.6 tons per year, the PSD significant emissions increase threshold for lead, the project would not be considered a major modification for lead emissions. A preliminary draft has been sent to the company for review. Lead modeling is being performed by the Gateway. Illinois EPA will verify that this project has undergone the necessary ESA review before the final

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permit is issued. On hold - awaiting resolution of pending enforcement actions at the source.

~~Continental Tire the Americas, LLC (Mount Vernon, Jefferson County); ESA-no; synthetic minor: Continental has applied for a construction permit for changes to the Commercial Vehicle Tire (CVT) Area at its tire manufacturing plant in Mount Vernon. This project includes new carbon black bins, one new rubber mixing unit (Mixer #21), two modified mixing units, two new extruders and seven new curing presses. The existing Tire Uniformity Grinding Operations and Tire Repair Operations would also experience an increase in throughput. The new curing presses would require additional steam from the existing boilers to operate. VOM is the pollutant of concern with project increases at 39.2 tons/year. Public Notice begins 2/4 and ends 2/6/13.~~

Saint-Gobain Containers, Inc. (Dolton, Cook County); ESA-no; synthetic minor: Saint-Gobain has applied for a construction permit for modifications and installation of controls for its three furnaces at its glass container manufacturing plant in Dolton. Installation of controls is required under a Global Consent Decree. Saint-Gobain has selected a Catalyst Embedded Ceramic Filter System with Reagent Injection in lieu of a dry scrubber/ESP/SCR. This alternative control system was approved for use by EPA. The project is expected to "net out" of PSD review. The company is reviewing a preliminary draft permit.

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#### **MINESH PATEL**

Aventine Renewable Energy Pekin III Project (Pekin, Tazewell County); ESA-yes: Submitted an application for expansion of 108 million gallons per year dry mill ethanol plant. The proposed ethanol plant would be a standalone facility (would not be utilizing any of the existing wet mill or dry mill operations). The proposed facility would be a major modification subject to PSD regulations for VOM, CO, NOx and PM. The company may withdraw its permit application. Company is not responding to information requests anymore. On hold, no change.

Mississippi Lime Company Lime Manufacturing Plant (Prairie du Rocher, Randolph County); ESA-yes; PSD: PSD permit was issued

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December 30, 2010 for a lime manufacturing plant, including two rotary lime kilns with pre-heaters; limestone crushing, storage and handling; fuel storage and handling; lime hydration; lime storage, handling and loadout; and other ancillary operations. Shortly after issuance, the Sierra Club appealed the permit raising concerns with NAAQS compliance, BACT safety margins and fuels (natural gas vs. coal). On August 9, 2011, the EAB remanded the PSD to Illinois EPA finding that:

- (1) Illinois EPA failed to provide sufficient justification for determining BACT for kiln startup and shutdown emissions. Illinois EPA eliminated natural gas as a control option because of the proposed plant site's distance from the existing natural gas pipeline. Illinois EPA's determination that natural gas was "not commercially feasible" lacks support and does not consider the average and incremental cost effectiveness of natural gas.
- (2) Illinois EPA failed to provide sufficient justification for the permit's BACT emissions limitations for SO<sub>2</sub>, NO<sub>x</sub>, and PM.
  - (a) Illinois EPA failed to adequately support its determination that a 3.5% sulfur content design fuel, consisting of both coal and petroleum coke, was BACT for SO<sub>2</sub>, particularly when Illinois EPA had already concluded that among the technically feasible coals, coal with 3.2% sulfur content was cost effective. In declining to consider the performance test data at existing kilns that Sierra Club had identified, Illinois EPA fundamentally misunderstood that its role as permit issuer requires the agency to investigate and examine recent regulatory determinations.
  - (b) Illinois EPA's administrative record does not support Illinois EPA's assertions that compliance margins were necessary for the NO<sub>x</sub>, filterable PM, and PM<sub>10</sub> BACT limits due to variations in the effectiveness of the chosen control measures. Illinois EPA explained neither how it derived the numerical values for the margins nor the technical or scientific bases for the margins. The BACT analyses for these pollutants also do not

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sufficiently assess data from other facilities that might support the proposed compliance margin. Illinois EPA was obligated to conduct a more thorough evaluation of comparable facilities, including those that Sierra Club cited.

- (3) Illinois EPA failed to provide sufficient justification for determining that emissions from the proposed source will not cause or contribute to a violation of the one-hour SO<sub>2</sub> NAAQS. Although it was not improper for Illinois EPA to use a SIL in the culpability analysis for the one-hour SO<sub>2</sub> NAAQS, it is unclear from the administrative record what SIL value Illinois EPA used in the culpability analysis. EPA guidance provides an interim one-hour SO<sub>2</sub> SIL of 7.85 µg/m<sup>3</sup>, which is supported in the administrative record as a de minimis concentration, but Illinois EPA did not explain whether or how this SIL was applied. Illinois EPA further failed to identify whether two other values that appear in the administrative record, 7.9 µg/m<sup>3</sup> and 10 µg/m<sup>3</sup>, were applied as the one-hour SO<sub>2</sub> SIL in the culpability analysis. Finally, to the extent that Illinois EPA applied either 7.9 µg/m<sup>3</sup> or 10 µg/m<sup>3</sup> as the one-hour SO<sub>2</sub> SIL, Illinois EPA did not demonstrate that those values represent de minimis concentrations.
- (4) Illinois EPA failed to provide sufficient justification for not establishing SO<sub>2</sub> and NO<sub>x</sub> emissions limits based on one-hour averages to protect the one-hour SO<sub>2</sub> and the one-hour NO<sub>2</sub> NAAQS. Illinois EPA's explanations for not including emission limitations for SO<sub>2</sub> and NO<sub>x</sub> based on one-hour averages - that the results of other state agencies' models have "overstated impacts to such a degree that they cannot be considered credible" and that the proposed control technology at the proposed plant cannot catastrophically fail - are unsupported and anecdotal at best. In light of the EPA directive to include emission limitations based on one-hour averages, Illinois EPA's unsupported reasoning for not doing so is inadequate.

Company has submitted supplemental information addressing the remand issues and new requirements that became applicable since the remand. Still need GHG BACT analysis. No change.

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**Koppers Industries, Inc. (Chicago, Cook County); ESA-no; Netting Project;** Koppers proposes to revise its construction permit for a New Tube Heater for Tar Distillation System #2, which was issued on June 14 2012. The permit allowed installation of a new heater which would replace the existing heater for the system. The new heater would use natural gas and process gas from the distillation process as its fuel. The original construction permit for the new heater was a netting project for SO<sub>2</sub> emissions. The project resulted in a net increase of 28.7 tons per year for SO<sub>2</sub> emissions. Recent waste gas analysis at the plant shows higher sulfur content in the waste gas than previously estimated. (The previous estimate was based on a 1985 analysis.) Using the more recent test data, Koppers has now proposed to update its previously issued permit. The revised permit would result in higher SO<sub>2</sub> emissions for the Tar Distillation System #2 than currently permitted. However, the net increase in SO<sub>2</sub> emissions associated with the project is expected to be less than significant, i.e., less than 40 tons per year.

**University of Chicago; (Chicago, Cook County); ESA-no:** The University of Chicago is proposing to modify an existing boiler. Details to follow.

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## MANISH PATEL

**Corn Products ARGO, (Bedford Park, Cook County); ESA-no:** This company proposes to install a fourth starch dryer "the D starch Dryer", associated dry starch storage, packaging and handling equipment, and increases in the operation and emissions of certain existing pieces of equipment to handle dry starch produced in the new dryer. The project will not be major for PM, PM<sub>10</sub>, and PM<sub>2.5</sub>, netting out of PSD or MSSCAM review. Illinois EPA sent the draft permit to company for their review/comments in May 2009. Project was put on hold by the company in June 2009. No change in status since then.

**Eastern Illinois University (EIU); (Charleston, Coles County);**  
**ESA-no:** EIU has applied for a revised construction permit for their new biomass fired Renewable Energy Center. The project netted out of PSD for NO<sub>x</sub> emissions with the shutdown of the existing coal fired steam plant. The requested revisions would

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resolve various issues including actual boiler heat input capacities and startup/shutdown procedures. With respect to NOx, the short-term NOx emission limits would be increased but the annual NOx emissions limits would be lowered slightly. A public comment period will be held. Application currently under review, awaiting additional information from EIU.

**Argonne National Laboratory (ANL); (Argonne, DuPage County);**  
**ESA-no:** ANL has proposed a combined heat and power (CHP) project. The project would involve a natural gas-fired combustion turbine-generator, duct burner and heat recovery steam generator (HRSG) to supply steam and electricity (about 6 MWe) to the facility. The project involves netting for NOx emissions with shutdown of one of the existing gas-fired boilers. Emissions of other pollutants will not be significant. The application is under review.

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**KUNJ PATEL**

*No projects to report.*

**KEVIN HECHT**

**Washington Mills (formerly Exelon) (Hennepin, Putnam County);**  
**ESA-no:** This company proposes a PSD project for a 6th Silicon Carbide Furnace Group. This project will be similar to the 5th Silicon Carbide Furnace Group, Construction Permit 07070005, issued March 19, 2009. No change in status.

**Rock Island Arsenal (Rock Island, Rock Island County);** **ESA-no:**  
 The source proposes to install two natural gas fired boilers in the central heating plant. The purpose of the project is to reduce the source's emissions of HAPs to minor source status for purposes of the Boiler NESHAP. The new natural gas fired boilers would replace two of the four coal fired boilers at the source, allowing Rock Island Arsenal to accept limits on the use of coal and emissions of the remaining two coal fired boilers. Illinois EPA sent a draft permit to the company for review. Waived to January 2014.

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## SHASHI SHAH

### **ADM - Ethyl Lactate Process (Decatur, Macon County); ESA-yes:**

ADM has submitted a construction permit application to increase the capacity of the ethyl lactate process at its Decatur complex. Ethyl lactate is a solvent with uses in pharmaceuticals, food additives and fragrances, as well as in degreasing. The proposed project would include changes to process piping, existing refining columns, and existing storage tanks in the ethyl lactate process to enable increased production.

The proposed project would be subject to PSD review because it would be accompanied by significant increases in emissions of nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>) and greenhouse gases (GHG). Most of the increases in emissions of NO<sub>x</sub>, SO<sub>2</sub> and GHG would occur at the existing coal-fired boilers at the source. These boilers will need to "operate more" to make the additional steam that would be used by the expanded ethyl lactate process expansion. However, the project would not trigger BACT for these boilers for any pollutants because the boilers would not undergo any physical or operational modifications. There will also be an increase in GHG emissions due to increased production by the existing lactic acid process, where carbon dioxide is a side product of fermentation. The application also indicates that BACT would not be triggered for the existing lactic acid process because it would not undergo any modification. Accordingly, ADM prepared this application based on the project only being subject to the air quality analysis and administrative requirements of the PSD rules. ESA review has been completed (EPA made a no-effect determination). No change in status.

**ADM - Lysine Process (Decatur, Macon County); ESA-yes:** ADM has submitted a construction permit application to increase the capacity of the lysine process at its Decatur complex. Lysine is an essential amino acid produced by ADM as a supplement for animal feeds. The proposed project would include two new spray dryers and physical modifications to existing fermenters and ancillary equipment to enable increased production of lysine.

The proposed project would be subject to PSD review because it would be accompanied by significant increases in emissions of volatile organic compounds (VOC), nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>) and greenhouse gases (GHG). The increases in



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emissions of NO<sub>x</sub>, SO<sub>2</sub> and GHG would occur at the existing coal-fired boilers at the source. These boilers will need to "operate more" to make the additional steam that would be used by the expanded lysine process. However, the project would not trigger BACT for these boilers for any pollutants because the boilers would not undergo any physical or operational modifications. There will also be an increase in VOC and GHG emissions due to increased production by the lysine process, which would be physically modified and where carbon dioxide (CO<sub>2</sub>) is a side product of fermentation. The projected increases in VOC and CO<sub>2</sub> emissions from the lysine process are about 75 and 160,000 tons per year, respectively.

The application suggests that BACT for GHG and VOC emissions from the lysine process would be no additional control. The only potentially applicable control option for CO<sub>2</sub> would entail capture and sequestration of CO<sub>2</sub>. This technology is not demonstrated for aerobic fermentation processes, like lysine production, where the fermentation exhaust averages only about 5% CO<sub>2</sub> by volume. In addition, ADM states that the lysine fermentation process cannot be made more efficient. The rate of CO<sub>2</sub> release is a consequence of the biological conversion of dextrose to lysine, which is metabolically constrained. The application also indicates that use of add-on control for the VOC emissions from lysine fermentation would not be cost-effective, with a cost of over \$50,000 per ton of VOC controlled. This is because of the low concentration of VOC in the exhaust from the fermentation process, at most only about 15 ppm. Illinois EPA issued the draft permit for public comment in February. Public comment period ended March 23, 2012. Only Sierra Club commented on the draft permit. Sierra Club alleges that:

- 1) The permit fails to require BACT, or undertake an analysis of increment, for PM<sub>2.5</sub>, despite the project's NO<sub>x</sub> and SO<sub>2</sub> emission increase above the "significant emission rate" for PM<sub>2.5</sub>.
- 2) The permit fails to establish and require compliance with BACT emission limits for the coal-fired boilers, which are undergoing a change in the method of operation as a result of the proposed project.

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- 3) The permit record fails to establish that the plant will not cause or contribute to a violation of the 75 ppb ambient air quality standard for 8-hour ozone.
- 4) The permit fails to establish 1-hour limits on NO<sub>x</sub> and SO<sub>2</sub> that were assumed as the maximum hourly emission rates in Illinois EPA's air quality impact analysis and, therefore, fails to ensure protection of the NAAQS.

Illinois EPA has ~~asked~~requested ADM to submit a project aggregation analysis and to respond to Sierra Club's comments. ~~Awaiting ADM's response. Illinois EPA has made a decision to review this specific project as a separate project and to reevaluate this decision as additional applications are submitted and reviewed.~~

#### FINAL PERMITS ISSUED SINCE JANURAY 15, 2013

U.S. Steel (Granite City, Madison County); ESA-no; Integrated CAAPP/Minor Permit: U.S. Steel applied for three permits to install a new baghouse control system, pursuant to an Agreement between U.S. Steel and Illinois EPA, for an emissions reduction project for the basic oxygen process furnaces (BOPFs). The three permits include a construction permit for the new baghouse capture and control system, modifications to the facility's existing CAAPP permit to incorporate the new construction permit conditions through integrated permitting processing, and a request to revise an existing PSD permit to reflect the new control strategy for the BOPFs at U.S. Steel's Granite City works. The revised PSD permit was issued on 12/17/2012.

A public Hearing was held on July 18th and the public comment period closed at midnight August 17, 2012. The final minor construction permit was issued on 4/1/2013. Illinois EPA is still finalizing the minor construction permit and modifications to the facility's CAAPP permit.

Continental Tire the Americas, LLC (Mount Vernon, Jefferson County); ESA-no; synthetic minor: Continental has applied for a construction permit for changes to the Commercial Vehicle Tire

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(CVT) Area at its tire manufacturing plant in Mount Vernon. This project includes new carbon black bins, one new rubber mixing unit (Mixer #21), two modified mixing units, two new extruders and seven new curing presses. The existing Tire Uniformity Grinding Operations and Tire Repair Operations would also experience an increase in throughput. The new curing presses would require additional steam from the existing boilers to operate. VOM is the pollutant of concern with project increases at 39.2 tons/year. Public Notice began 2/4 and ended 3/6/13. Final permit was issued on 3/12/2013.

#### **WITHDRAWN/ABANDONED APPLICATIONS**

The following applications were withdrawn or considered by Illinois EPA to be abandoned by applicants over the last 6 months:

**ADM - Threonine Process (Decatur, Macon County); ESA-yes:** ADM has withdrawn their construction permit application to increase the capacity of the threonine process at its Decatur complex. Threonine is an essential amino acid produced by ADM as a nutritional supplement for animal feeds. The project would have included new drop tank, dryer system, conveying system, changes to fermenter, and improvements to tower system in the threonine process to enable increase in production.

The application indicated that the project would have been subject to PSD review for sulfur dioxide (SO<sub>2</sub>) and greenhouse gases (GHG). Most of the increases in emissions of SO<sub>2</sub> and GHG would occur at the existing coal-fired boilers at the source. These boilers would need to "operate more" to make the additional steam that would be used by the expanded threonine process. However, the project would not trigger BACT for these boilers for any pollutants because the boilers would not undergo any physical or operational modifications.

**Baldwin Expansion, LLC (Dynegy Midwest, formerly Illinois Power) (Baldwin, Randolph County); ESA-no:** \$1.5 billion, two 750 MW coal-fired boilers. 4 - 5 million tons of coal a year by rail/barge. Adding 1500 MW to current 2000 MW from 3 existing boilers at Baldwin Power Plant, approx. 50 miles southeast of St. Louis.

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Two new boilers to fire pulverized coal, 750 MW nominal, each (total increase in plant capacity 1500 MW). Selective catalytic reduction (SCR), SO<sub>2</sub> scrubbers, and electrostatic precipitators proposed, exhausted through single 590 foot stack (two separate flues).

Potential emissions (as provided in the application): 16,500 tons of SO<sub>2</sub>, 7,450 tons NO<sub>x</sub>, 2,250 tons PM total (filterable and condensable), 330 tons VOM and 0.1 tons of mercury. These limits reflect proposed emission limits of 0.25, 0.12 and 0.034 lb/mmBtu for SO<sub>2</sub>, NO<sub>x</sub> and PM (total), respectively. After three years, proposed emissions for NO<sub>x</sub> would drop to 5,300 tons, based on compliance with NO<sub>x</sub> emission rate of 0.08 lb/mmBtu. Limits may be lowered due to Illinois EPA evaluation of BACT/LAER. The application does include an air quality analysis. NO<sub>x</sub> and CO impacts not significant. PM and SO<sub>2</sub> modeling shows compliance with NAAQS with a fair margin of compliance.

Dynegy does plan to submit further modeling to address impacts on the nearby Mingo Wildlife refuge, a Class I Area under PSD. This modeling is expected to show that even with the proposed expansion, emissions of SO<sub>2</sub> and NO<sub>x</sub> from Baldwin would be significantly lower than the plant's actual emissions in recent years, i.e., 1996 through 2000.

Illinois EPA requested additional information from the source but the source has been unresponsive for several years. Project believed to be dead.

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## PSD PERMITS UNDER REVIEW BY THE ENVIRONMENTAL APPEALS BOARD (EAB)

The following are PSD permits issued by Illinois EPA that are currently before the EAB for review:

None

## RECENT EAB DECISIONS ON PSD PERMITS ISSUED BY ILLINOIS EPA

The following decisions were issued by the EAB over the last 6 months:

*None*

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*Christian County Generation (a.k.a. Taylorville Energy Center, Tenaska): PSD permit to construct a plant to produce substitute natural gas (SNG) and generate electricity, including a gasification block with two coal gasifiers and a power block with two turbines. Final PSD permit was issued 4/30/12. Final permit includes limits on CO<sub>2</sub> emissions from individual turbines when operating in a combined cycle mode. The \$3.5 billion Taylorville Energy Center will use Illinois basin coal to power the plant, capture the carbon dioxide (CO<sub>2</sub>) and either sequester it underground or sell it for use in enhanced oil recovery (EOR).*

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*On May 30, 2012, the Natural Resources Defense Council (NRDC) and Sierra Club challenged the final PSD permit to the EAB. The petition was amended on June 19, 2012 as directed by the EAB. In the amended petition, NRDC and Sierra Club allege the following:*

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- 1. Illinois EPA erred in its BACT determination for CO<sub>2</sub> emissions from the acid gas removal vent.*

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- 2. Illinois EPA's failure to consider low sulfur coal in its BACT analysis violated the Supremacy Clause and Dormant Commerce Clause of the U.S. Constitution.*

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~~3. Illinois EPA erred in its BACT determination for "fugitive" emissions by applying synthetic organic chemical manufacturing industry emissions factors.~~

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~~4. The applicant failed to conduct single-source air dispersion modeling when demonstrating compliance with the 8-hour ozone NAAQS.~~

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~~5. In light of a post-Permit announcement by the applicant's parent company that it would construct the facility in two phases - with the natural combined-cycle "power block" built first, followed by construction of the coal gasification unit (and associated carbon capture equipment) at an indefinite time in the future, when market conditions improve - the Permit should be remanded to narrow the timeframe in which construction of all phases of the project is commenced.~~

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~~The EAB requested OAR, OGC and EPA Region 5 to file a joint brief by July 12, 2012, addressing arguments arising from the amended petition.~~

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~~On July 6, 2012, Illinois EPA withdrew the April 30, 2012 PSD permit in its entirety, citing its authority under the PSD delegation agreement and 40 C.F.R. §124.19(d). Illinois EPA submitted the withdrawal notice to the EAB in lieu of filing a response to NRDC and Sierra Club's petition. (The response was due July 10, 2012.) Illinois EPA stated that the withdrawal will allow for further consideration of the permitting decision, including, but not limited to, elements of the BACT analysis. Illinois EPA plans to consult with the EPA and the Permittee during the reconsideration process. Illinois EPA stated that a reissuance of the permit will be subject to any applicable requirements for additional public comment and hearing.~~

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~~Following Illinois EPA's withdrawal of the permit, on July 17, 2012, the EAB dismissed Sierra Club and NRDC's petition for review as moot.~~

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